

REMARKS

Introduction

Claims 13-24 are currently pending. For at least the reasons set forth below, Applicant submits that the claims are in condition for allowance.

Rejection of Claims under 35 U.S.C. §102(b)

Claims 13-14, 21-22 and 24 are rejected under 35 U.S.C. §102(b) as being anticipated by Applicants Admitted Prior Art (“AAPA”). Applicant respectfully requests that the rejection be withdrawn for the following reasons.

To anticipate a claim under § 102(b), a single prior art reference must identically disclose each and every claim element. See Lindeman Machinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claimed element is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997). Additionally, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Independent claim 13 recites, in relevant parts, “performing a correction of the first estimation of the pulse response while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel.” Independent claim 24 recites, in relevant parts, “a channel estimation correcting element for correcting a signal of the channel estimator while taking into consideration an output signal of the estimator of the additive interference of the memory-enabled transmission channel.” In support of the present rejection, the Examiner cites page 1, lines 9-10, 16-25 and page 2, lines 1-6 of AAPA as teaching “a method for correctly estimating the additive noise and correcting the coefficients

of the channel impulse response,” (Office Action, paragraph 4), and the Examiner implicitly contends that this interpretation satisfies the above-recited features of claims 13 and 24. However, in direct contrast to the Examiner’s contention and the limitations of claims 13 and 23, the AAPA explicitly states that “known techniques for correcting the pulse response estimation fail to take into consideration any additive interference estimations for the transmission channel.” (Subs. Spec., p. 1, 1.28-30). Furthermore, there is no suggestion in AAPA regarding estimating the additive interference; instead, AAPA merely indicates that “inherent additive noise of the to be estimated transmission channel” can cause the estimated transmission channel coefficients to be incorrect, and that non-linear reworking techniques (e.g., POCS) can be used to partially correct the inaccurate transmission channel coefficients. While non-linear reworking techniques of AAPA attempt to solve problems caused by additive interference, there is absolutely no suggestion in AAPA that the non-linear reworking techniques used to correct the coefficients include any estimation of additive interference, i.e., the AAPA does not disclose “performing a correction of the first estimation of the pulse response while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel.”

To the extent that the Examiner may be implicitly contending that the claimed feature of “performing a correction of the first estimation of the pulse response while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel” is inherently disclosed in AAPA, there is absolutely no “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.”

For at least the foregoing reasons, claims 13 and 24, as well as dependent claims 14 and 21-22, are not anticipated by AAPA.

Claims 13, 16 and 24 are rejected under 35 U.S.C. §102(b) as being anticipated by WO 98/44655 (“Andersson”). The anticipation rejection should be withdrawn because Anderson fails to identically disclose each of the claimed limitations.

Independent claims 13 and 24 are directed to a method and device, respectively, for estimating a memory-enabled transmission channel, and amended claims 13 and 24 recite, in relevant parts, “performing a correction of the first estimation of the pulse response while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel.” While the Examiner contends that Andersson “discloses a compensation means for estimating the channel response taking into consideration the additive interference,” there is simply no suggestion in Andersson regarding the claimed feature of “performing a correction of the first estimation of the pulse response while taking into consideration the estimation of the additive interference.” Andersson is directed to processing of received radio signals, which processing includes compensating for inter-symbol interference (ISI) caused by non-synchronous sampling of received signals; the ISI is introduced by “sampling a signal in an unsynchronized manner,” (page 11, lines 11-14), which is also noted as being the asynchronous conversion of the analog signal to the digital signal and capable of being parameterized and easily determined. (See, e.g., page 4, line 28 – page 5, line 2). Andersson clearly fails to disclose the claimed feature of estimation of the additive interference of the memory-enabled transmission channel; instead, Andersson clearly and explicitly discloses that the ISI is caused by non-synchronous sampling.

For at least the foregoing reasons, claims 13 and 24, as well as dependent claim 16, are allowable over Andersson.

Rejections under 35 U.S.C. §103(a)

Claims 14 and 21-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Andersson in view of AAPA. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and

not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claims 14 and 21-22 depend from parent claim 13 and recite further patentable subject matter. In addition, as previously noted, neither Andersson nor AAPA teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Accordingly, Applicant submits that dependent claims 14 and 21-22 are not rendered obvious by the combination of Andersson and AAPA.

Claims 15 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Andersson, AAPA and "Low Cost Channel Estimate in the Uplink Receiver of CDMA Mobile Radio Systems," by Steiner et al., ("Steiner"). Withdrawal of the obviousness rejection is requested in view of the following explanation.

Claims 15 and 23 ultimately depend on parent claim 13 and recite further patentable subject matter. In addition, as previously noted, neither Andersson nor AAPA teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of Andersson and AAPA as applied against parent claim 13. Accordingly, Applicant submits that dependent claims 15 and 23 are not rendered obvious by the combination of Andersson, AAPA and Steiner.

Claims 15 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over combinations of AAPA and Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

Claims 15 and 23 ultimately depend on parent claim 13 and recite further patentable subject matter. In addition, as previously noted, AAPA clearly does not teach the parent

claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of AAPA as applied against parent claim 13. Accordingly, Applicant submits that dependent claims 15 and 23 are not rendered obvious by the combination of AAPA and Steiner.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Andersson. Withdrawal of the obviousness rejection is requested in view of the following explanation.

Claim 16 depends from claim 13 and recites further patentable subject matter. In addition, as previously noted, neither AAPA nor Andersson actually teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Accordingly, Applicant submits that dependent claim 16 is not rendered obvious by the combination of AAPA and Andersson.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Andersson in view of Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

Claim 17 ultimately depends on claim 13 and recites further patentable subject matter. In addition, as previously noted, Andersson clearly does not teach the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of Andersson as applied against parent claim 13. Accordingly, Applicant submits that dependent claim 17 is not rendered obvious by the combination of Andersson and Steiner.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Andersson and further in view of Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

Claim 17 ultimately depends on claim 13 and recites further patentable subject matter. In addition, as previously noted, neither AAPA nor Andersson teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of AAPA and Andersson as applied against parent claim 13. Accordingly, Applicant submits that dependent claim 17 is not rendered obvious by the combination of AAPA, Andersson and Steiner.

Allowable Subject Matter

Examiner objected to claims 18-20 as being dependent upon a rejected base claim, claim 13, but the Examiner also indicated that claims 18-20 contain allowable subject matter. Since claim 13 has been shown to be in allowable condition, Applicant submits that dependent claims 18-20 are allowable in their present dependent form.

Conclusion

In light of the foregoing, Applicant respectfully submits that all of the pending claims 13-24 are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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